

REMARKS

Upon entry of this Amendment, claims 1 and 4-22 are all the claims pending in the application. Claims 1, 4, 5 and 9 are amended. Claims 2 and 3 are canceled without prejudice or disclaimer.

Initially, Applicant notes that the Examiner has not indicated acceptance of the drawings, which were filed on December 10, 2003. The Examiner is respectfully requested to indicate acceptance of these drawings in the next action.

To summarize the Office Action, claim 5 stands objected to for informalities and claims 1-9 and 13-22 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Richtsmeier (U.S. Patent No. 6,453,130). Further, claims 10-12 are allowed by the Examiner. The outstanding objection and rejections are addressed as follows.

Claim Objections

Applicant has amended claim 5 as suggested by the Examiner. Accordingly, withdrawal of this ground of objection is requested.

Claim Rejections – 35 U.S.C. § 102(b)

As noted above, claims 1-9 and 13-22 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Richtsmeier. Applicant respectfully traverses.

With respect to independent claim 1, Applicant submits that Richtsmeier fails to anticipate all the limitations of the image forming apparatus defined by claim 1. For instance,

the image forming apparatus of claim 1 comprises, *inter alia*, image forming means, heating means and a sensor which is disposed on a transport path of the recording medium between the image forming means and the heating means for detecting passage of the recording medium, and outputs a timing signal associated with a timing of delivering the recording medium from the image forming means to the heating means. Further, claim 1 recites a “control means for controlling said heating means to a predetermined temperature by switching on/off the energization of said heating means based on said timing signal”, and further requires “wherein said control means switches on the energization of said heating means a predetermined length of time in advance of a moment that a leading end of said recording medium with respect to a delivery direction of said recording medium arrives at a heating position in which said heating means heats said recording medium.”

Thus, the image forming apparatus defined by claim 1 prevents the reduction in fixing temperature at a time of the arrival of the recording medium. Accordingly, sufficient heat energy is supplied to the heating means before the recording medium arrives at the heating means.

By contrast, Richtsmeier teaches an image forming apparatus in which the target temperature of a heat source is increased subsequent to the arrival time of a recording medium. Indeed, Richtsmeier teaches that the controller detects when the leading edge “LE” of the medium reaches the heat source and “can then cause the temperature of the heat source to begin increasing at a given rate so that, when ‘L’ is equal to a given length, the temperature of the heat source has increased by a corresponding given amount.” (Richtsmeier at col. 10, lines 58-65) (emphasis added). Thus, Richtsmeier teaches that the supply of additional heat energy to a

fusing portion is not started until after the medium has arrived at the heat source. Although Richtsmeier may teach that the leading edge is detected, the temperature does not increase in advance of a moment when the recording medium arrives at a heating position, as defined by claim 1.

Rather, the fusing portion of Richtsmeier is controlled to be at a constant temperature until the recording medium arrives. (*see* Richtsmeier at col. 10, lines 56-59: the heat source is at “an initial temperature set point” before the leading edge of the medium passes between the heat source and the pressure roller). However, given the heat capacity of a heating source in an image forming apparatus, such as taught by Richtsmeier, the actual temperature does not rise immediately even though the target temperature in the controller may be increased. Thus, the image forming apparatus of Richtsmeier is incapable of preventing the temporary but rapid reduction in temperature at a moment that a leading edge of the recording medium arrives at the heating means.

Therefore, Richtsmeier fails to anticipate or suggest *at least* the feature of “wherein said control means switches on the energization of said heating means a predetermined length of time in advance of a moment that a leading end of said recording medium with respect to a delivery direction of said recording medium arrives at a heating position in which said heating means heats said recording medium”, as required by claim 1. Accordingly, reconsideration and withdrawal of the rejection of claim 1 is requested. Further, Applicant submits that claims 4-8 are allowable at least by virtue of depending from claim 1. Thus, claims 4-8 should be allowed.

The above arguments are equally applicable to independent claim 9, which defines a fixing-temperature control method for an image forming apparatus which recites, *inter alia*, controlling said heating means to a predetermined temperature by switching on the energization of said heating means a predetermined length of time in advance of a moment that a leading end of said recording medium with respect to a delivery direction of said recording medium arrives at a heating position in which said heating means heats said recording medium based on said timing signal.” As noted above, Richtsmeier merely teaches increasing temperature after the recording medium reaches the heat source and therefore clearly fails to anticipate or suggest all the limitations of claim 9. Therefore, reconsideration and withdrawal of the rejection of claim 9 is requested.

With respect to independent claim 13, an image forming apparatus is defined which comprises, *inter alia*, image forming means which has an intermediate transfer medium rotatingly movable in a predetermined direction and which performs an image formation for forming a plurality of tone images of different colors and forming a color image by superimposing said toner images on top of each on said intermediate transfer medium, signal generating means for outputting a synchronous signal corresponding to a rotating motion of said intermediate transfer medium, heating means for heating toners, control means for controlling said heating means to a predetermined temperature by switching on/off the energization of said heating means. Further, claim 13 requires that the control means controls the energization of the heating means based on the synchronous signal.

Richtsmeier fails to anticipate or suggest all the limitations of claim 13. For instance, the image forming apparatus of Richtsmeier does not have an “intermediate transfer medium”, as recited in claim 13. Indeed the Examiner has not identified this element in the grounds of rejection. Further, while the Examiner contends that Richtsmeier teaches a repetition signal, Richtsmeier clearly fails to anticipate the limitation of “a synchronous signal corresponding to a rotating motion of said intermediate transfer medium” because no such intermediate transfer medium is present in the image forming apparatus taught by Richtsmeier.

Applicant submits that the rejection of claim 13 is improper because at least these feature are neither anticipated nor suggested by Richtsmeier, and reconsideration and withdrawal of this ground of rejection is therefore requested. Further, Applicant submits that claims 14-21 are allowable at least by virtue of depending from claim 13. Thus, claims 14-21 should be allowed.

With respect to independent claim 22, Applicant submits that the above arguments with respect to claim 13 are equally applicable to method claim 22, which likewise requires “an intermediate transfer medium” and “outputting a synchronous signal associated with the rotating motion of said intermediate transfer medium”. Richtsmeier fails to anticipate or suggest at least these features. Therefore, reconsideration and withdrawal of the rejection of claim 22 is requested.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

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Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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